

Amendments to the Claims:

This listing of claims will replace all prior versions and listing of claims in the application.

Listing of Claims:

1. (Currently Amended) A data processing system comprising:

a first storage system that is ~~connected~~ configured to couple to a host device and configured to sends and receives data to and from the host device;

a second storage system that is ~~connected~~ coupled to the first storage system and configured to receives data from the first storage system; and

a third storage system that is ~~connected~~ coupled to the first storage system and configured to receives data from the first storage system, wherein

the first storage system includes a first storage area that is configured to stores data written ~~sent~~ from the host device, and a second storage area that is configured to stores the data written from the host device ~~in the first storage area~~ and update information relating to a write order of the data ~~written in the first storage area~~,
area,

the first storage system is configured to transmit the data to the second storage system synchronously with receiving the data from the host device, and transmit the data and the update information to the third storage system asynchronously with receiving the data from the host device,

the second storage system includes a third storage area that is configured to stores the data received ~~sent~~ from the first storage system, and a fourth storage area

that ~~is configured to~~ stores the data received from the first storage system ~~written in the third storage area and update information relating to the write order of the data in order to transmit the data and the update information stored in the fourth storage area to the third storage system in case of failure of the first storage system, relating to the data written in the third storage area, and~~

the third storage system includes a fifth storage area that is configured to stores the data read from the second storage area and the update information relating to the data read from the second storage area, and a sixth storage area that is configured to stores the data included in that is generated based on the data written in the fifth storage area according to the update information included in the fifth storage area and the update information relating to the data written in the fifth storage area.

2. (Canceled)

3. (Currently Amended) A data processing system according to claim 12,

wherein the first storage system is configured to requests, upon receiving from the host device a data write request to write data, the second storage system to write the data therein, and notifies, after receiving a write response from the second storage system, the host device of a completion of the data write request, and

wherein the first storage system is configured to writes in the first storage area the data ~~sent~~ written from the host device, and writes in the second storage area the data written from the host device ~~in the first storage area and the~~ update information relating to the write order of the ~~data written in the first storage area~~.

4. (Currently Amended) A data processing system according to claim 3,

wherein the first storage system is configured to generates, upon receiving from the host device the data write request, an update number that is used for identifying the write order of the ~~a data update order~~, and includes the update number in a ~~the~~ data write request that is sent to the second storage system, and

wherein the update information written in the ~~second~~ fourth storage area of the second storage system includes the update number received from the first storage system.

5. (Currently Amended) A data processing system according to claim 3, wherein the second storage system is configured to ~~writes~~ sends, upon receiving from the first storage system the data write request, ~~the write response to the first storage system,~~ ~~writes in the third storage area the data~~ received ~~sent from the first storage system,~~ ~~and writes in the fourth storage area the data~~ received from the first storage system ~~written in the third storage area and the~~ update information relating to the write order

of the data written in the third storage area, and send a response to the first storage system.

6-7. (Canceled)

8. (Currently Amended) A data processing system according to claim 1, wherein the first storage system is configured to sends to the third storage system the data and the update information relating to the write order of the data written in the second storage area, and

the third storage system is configured to writes in the fifth storage area the data and the update information relating thereto sent received from the first storage system in the fifth storage area, and writes in the sixth storage area the data stored in the fifth storage area generated based on the data and the update information relating thereto written in the fifth storage area in the sixth storage area according to the update information stored in the fifth storage area.

9. (Currently Amended) A data processing system according to claim 8, wherein the third storage system is configured ~~controls~~ to read at specified time intervals from the first storage system the data and the update information relating thereto written stored in the second storage area in the first storage system.

10. (Currently Amended) A data processing system according to claim 8,
wherein the first storage system is configured to generate, upon receiving a
data write request from the host device, an update number that is used for identifying
the write order of the data~~a data update order~~, and

wherein the update information written in the second storage area in the first
storage system includes the update number generated by the first storage system.

11. (Currently Amended) A data processing system according to claim 8, wherein
the update information written in the fifth storage area in the third storage system
includes an update number that is used for identifying the write order of the data, a
~~data order number~~.

12. (Currently Amended) A data processing system according to claim 1,
wherein the first storage system includes a plurality of first storage areas, and
wherein the update information written in the second storage area includes an
update number used for identifying write order of data ~~is created for data that is~~
written in the plurality of the first storage areas.

13. (Currently Amended) A data processing system according to claim 1,
wherein the second storage system includes a plurality of third storage areas,
and

wherein the update information written in the fourth storage area is created for data that is written in the plurality of ~~the~~ third storage areas.

14. (Currently Amended) A data processing system according to claim 1,
wherein the third storage system includes a plurality of the sixth storage areas, and

wherein data stored in the fifth storage area ~~that is~~ written in the plurality of ~~the~~ sixth storage areas according to ~~is generated based on data and the~~ update information ~~relating to the data written~~ stored in the fifth storage area.

15. (Currently Amended) A data processing system according to claim 1, wherein
the update information written in the second storage area in the first storage system includes an update number that is generated by the first storage system to be used for identifying the write order of the data ~~a data update order~~,

the update information written in the fourth storage area in the second storage system includes the update number included in the update information written in the second storage area, and

the update information written in the fifth storage area in the third storage system includes the update number included in the update information written in the second storage area.

16-40. (Canceled)

41. (New) A data processing system according to claim 1, wherein the third storage system is configured to transmit a read request to the first storage system, and in response to the read request, the first storage system is configured to transmit the data and the update information stored in the second storage area to the third storage system.

42. (New) A data processing system according to claim 1, wherein in case of failure of the first storage system, the data and the update information, which are not received by the third storage system but received by the second storage system before the failure, are transmitted from the fourth storage area of the second storage system to the third storage system, the fifth storage area of the third storage system is configured to store the data and the update information received from the second storage system, and the sixth storage area of the third storage system is configured to store the data included in the fifth storage area according to the update information included in the fifth storage area.

43. (New) A data processing system according to claim 42,
wherein in the update information read from the second storage area of the first storage system, a number indicating the write order of the data is included, and

wherein in case of failure of the first storage system, the data and the update information, which the third storage system does not receive from the first storage system, is specified based on a number included in the update information, which the third storage system read from the second storage area of the first storage.

44. (New) A data processing system according to claim 1,

wherein in case of failure of the first storage system, the data and the update information stored in the fourth storage area of the second storage system are transmitted to the third storage system, and the data transmitted from the fourth storage area to the third storage system is stored in the sixth storage area of the third storage system in an order related to the write order of the data based on the update information transmitted from the fourth storage area.

45. (New) A data processing system according to claim 44,

wherein the data stored in the fourth storage area of the second storage system, which is transmitted to the third storage system and stored in the sixth storage area of the third storage system in the order related to the write order of the data, is received by the second storage system from the first storage system before the failure of the first storage system.